

Florida Department of Transportation
MPO Advisory Council
Federal Highway Administration
Federal Transit Administration

Florida MPO Pilot Study

National Performance Measures

February 2017



TABLE OF CONTENTS

ACKNOWLEDGEMENTS	3
BACKGROUND	4
PILOT STUDY MEASURES	6
BRIDGE CONDITION MEASURES	7
% Of Bridges by Deck Area in Good Condition	7
SAFETY MEASURES	8
Fatalities	8
Fatalities/100M VMT	9
Serious Injuries	10
Serious Injuries/100M VMT	11
Number of Non-motorized Fatalities & Serious Injuries	12
SYSTEM PERFORMANCE MEASURE	13
Peak Hour Travel Reliability	13
FREIGHT PERFORMANCE MEASURE	14
Peak Hour Truck Travel Reliability	14
CONCLUSIONS	15
NEXT STEPS	15

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Background

National Measures

Congress established national measures of transportation performance in Federal authorizing transportation legislation in 2012. The United States Department of Transportation (USDOT) completed publication of Federal Rules for implementing the national performance measures in January 2017; the national measures are designed to provide state-by-state performance data in the areas of:

Bridge and pavement condition	Safety
Freight movement	System performance
Congestion	Air quality

Performance Management Regulations

As stipulated by Congress in authorizing legislation, States and MPOs must work collaboratively to set their own **2 and 4-year performance targets** for most of the national measures. **Performance data collection and submittal** to FHWA by states must include complete 2017 data and is required each calendar year thereafter. Lastly, initial **performance reports** are due from states to FHWA in October 2018 and every two years thereafter; the reports must demonstrate **significant progress** toward performance targets.

Performance Management at Florida DOT

For more than a decade, FDOT has used performance measures to assess how well Florida's multimodal transportation system functions; to support and inform decisions; to determine customer satisfaction; to demonstrate transparency and accountability to Florida's citizens; and to foster collaboration with FDOT's transportation system stakeholders.

MPO National Measures Pilot

In 2016, as part of its commitment to performance management, FDOT engaged with the state's MPOs in an exploratory pilot study of preparedness to handle forthcoming national performance measures proposed in draft Federal regulations. MPOs in the study included:

Broward	Hillsborough
Gainesville	Indian River

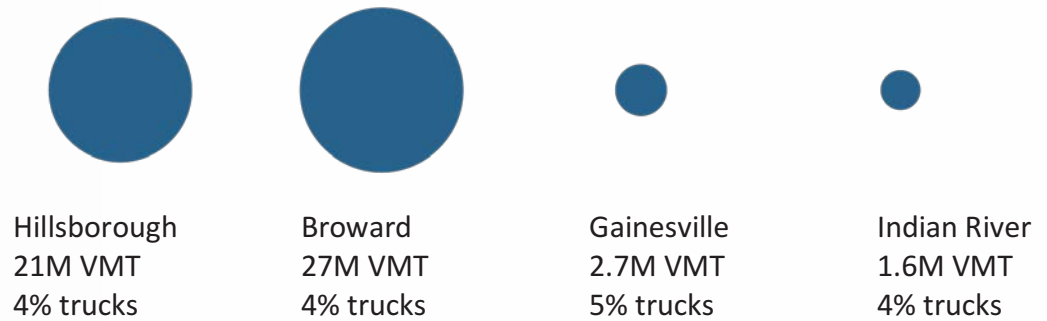
Goals of the pilot study were: 1) to test out compilation of MPO-level performance results; 2) compare statewide trends to different MPO-level trends; and 3) to engage in dialogue with MPO stakeholders.

MPO Pilot & Targets

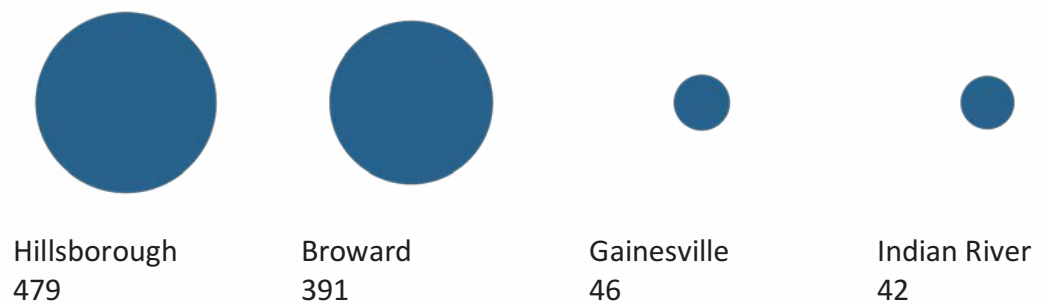
At the study's outset, participants agreed that no performance targets would be set as part of this initiative.

Pilot MPO Profiles

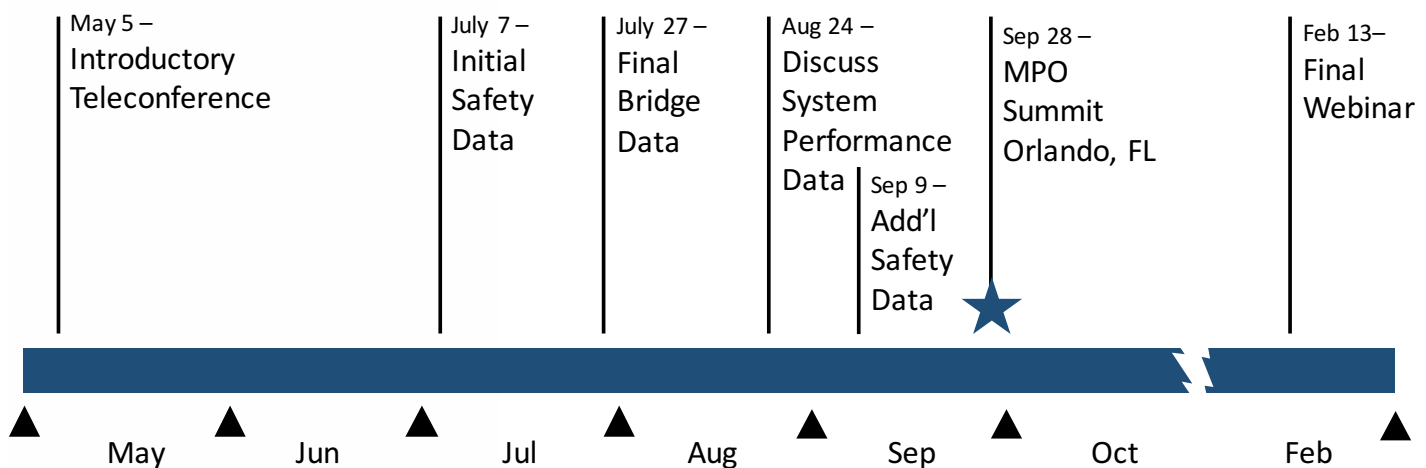
2015 Daily Vehicle Miles Traveled (By MPO/TPO Boundary)



National Highway System (NHS) Bridges (By MPO/TPO Boundary)



Pilot Study 2016 Schedule



Pilot Study Measures

To the extent practical, measures used in the pilot study were modeled after the national measures of transportation performance described in USDOT's three Notices of Proposed Rule Making (NPRMs). At the time of the study's completion, only the safety rule-making was finalized, therefore FDOT used discretion in selecting measures to use in the pilot to minimize burden in gathering and analyzing data. Measures in the study included:

Safety (All pilot measures match FHWA's Final Rule)

- Number of fatalities (5-year rolling avg.)
- Number of serious injuries (5-year rolling avg.)
- Fatalities per 100M VMT (5-year rolling avg.)
- Serious injuries per 100M VMT (5-year rolling avg.)
- Number of non-motorized fatalities and serious injuries (5-year rolling avg.)

Bridge Condition (Measures match FHWA's Final Rule)

- Percent of bridges on NHS in good/poor condition (by deck area)

Pavement Condition

- No measure on pavement was included in the MPO pilot study, since pavement data needed to calculate the pavement measures in the proposed NPRM measure was not fully available within FDOT.

System Performance (Measure similar in concept to FHWA NPRM, but calculation methodology differed.)

- % of IS and freeways providing for peak hour reliable travel times

Freight (Measure similar in concept to FHWA NPRM, but calculation methodology differed.)

- % of IS and freeways providing for peak hour reliable truck travel times

CMAQ Congestion & Air Quality (The national measures include CMAQ performance measures, however, Florida is exempted from tracking these measures because the State has no air quality nonattainment areas.)

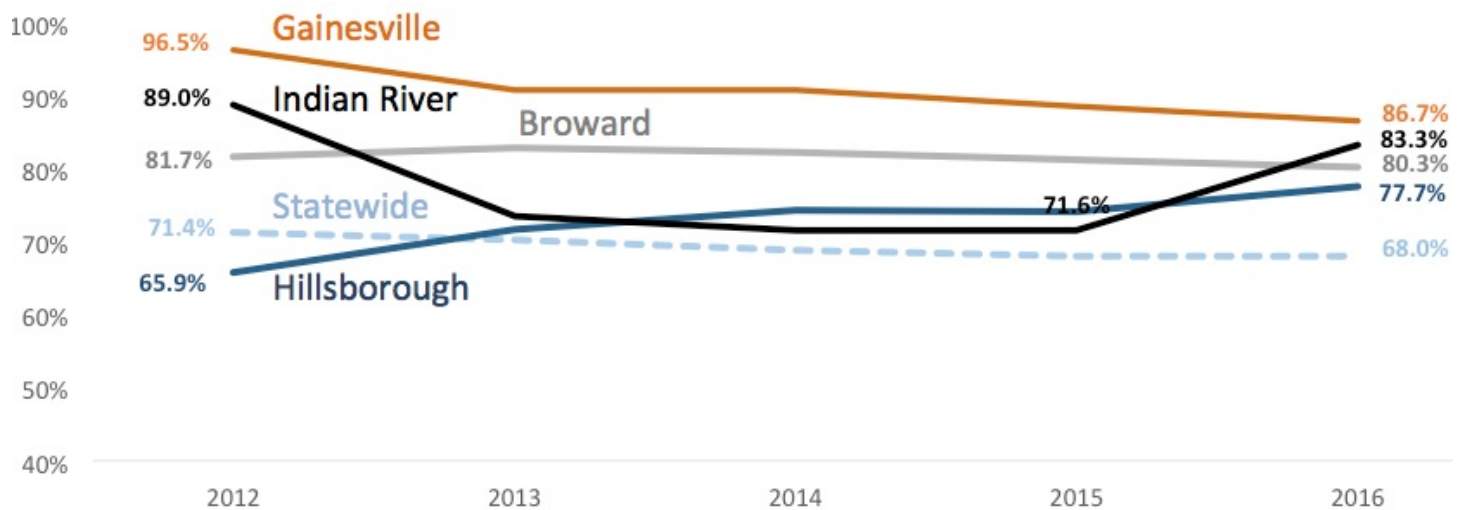
Measure Results

The following series of visualizations depict the results of data analysis performed by FDOT for each of the measures noted above.

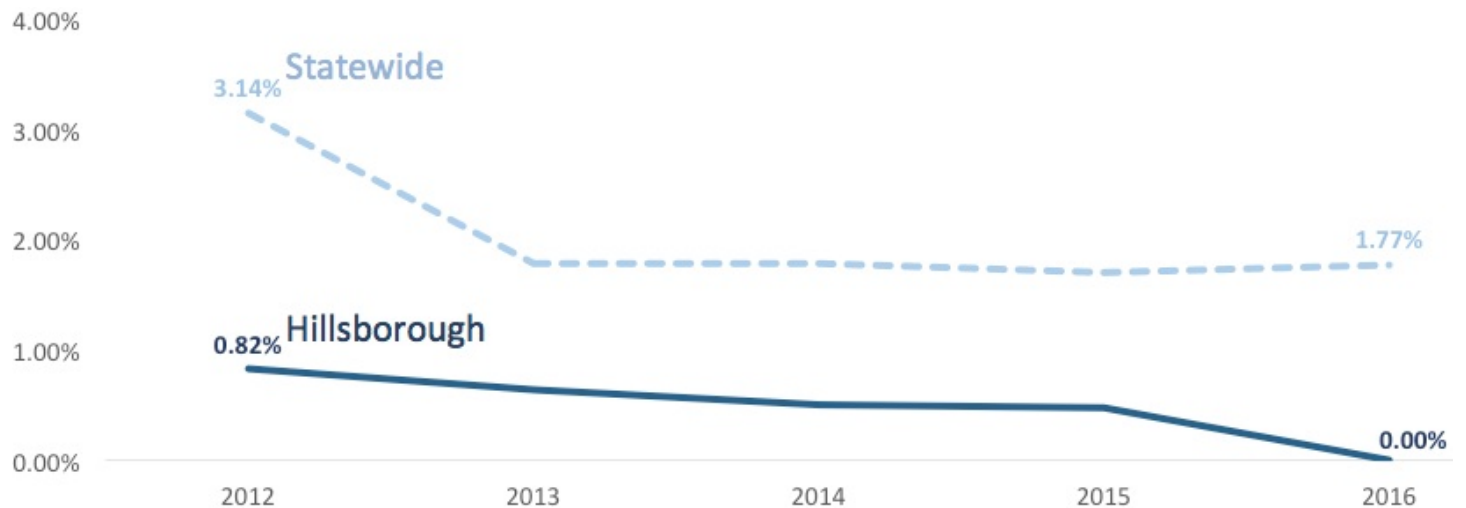
Bridge Condition Measures

% Of Bridges by Deck Area in Good Condition

NBI ratings for deck, superstructure, substructure must all be rated 7+ to be considered 'good;' if any rating is 4 or less, a bridge is considered 'poor.'

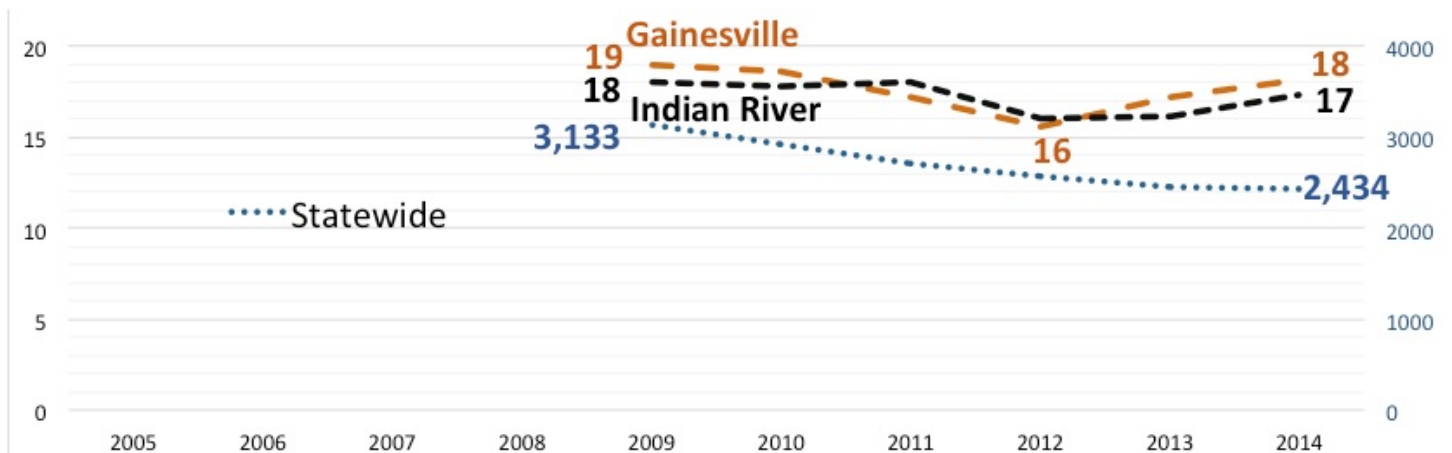
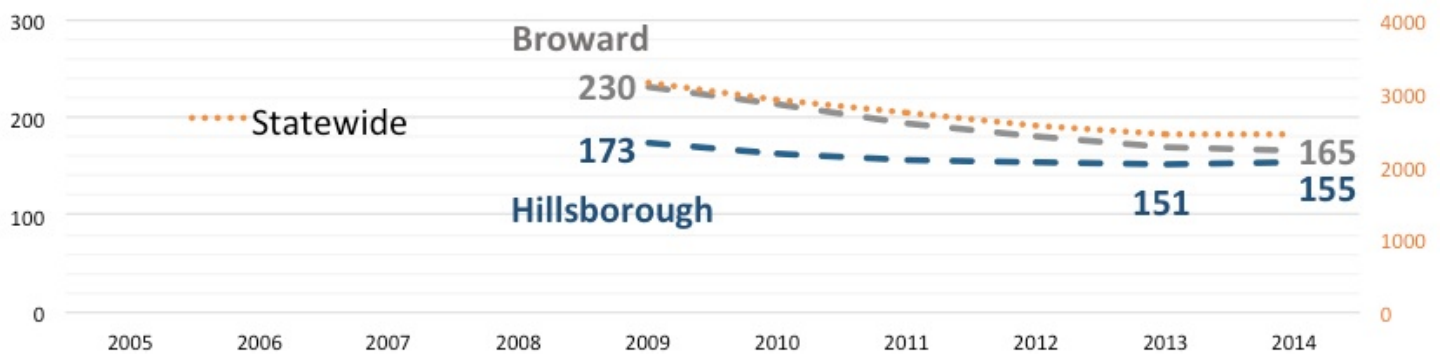


% Of Bridges by Deck Area in Poor Condition



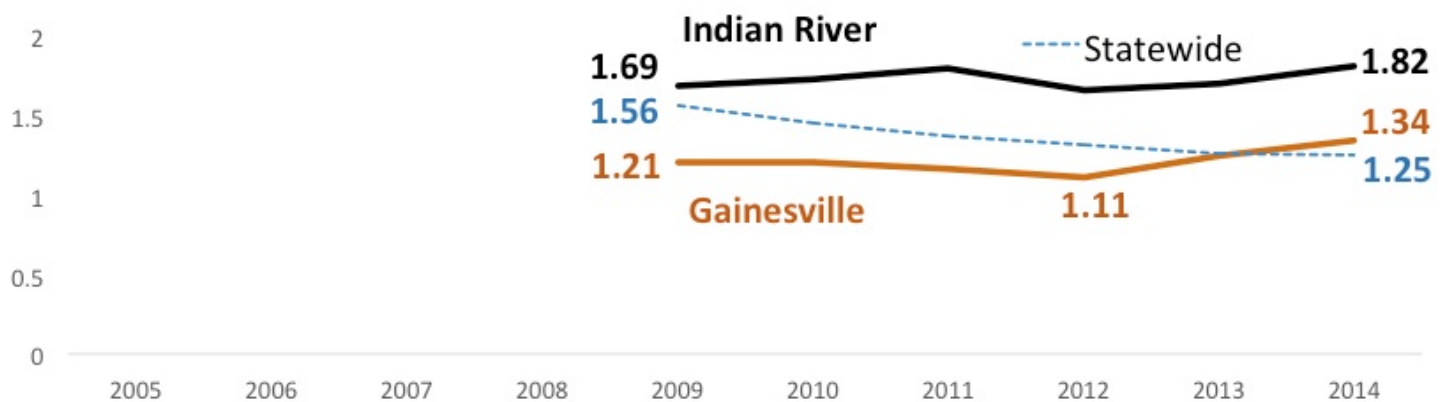
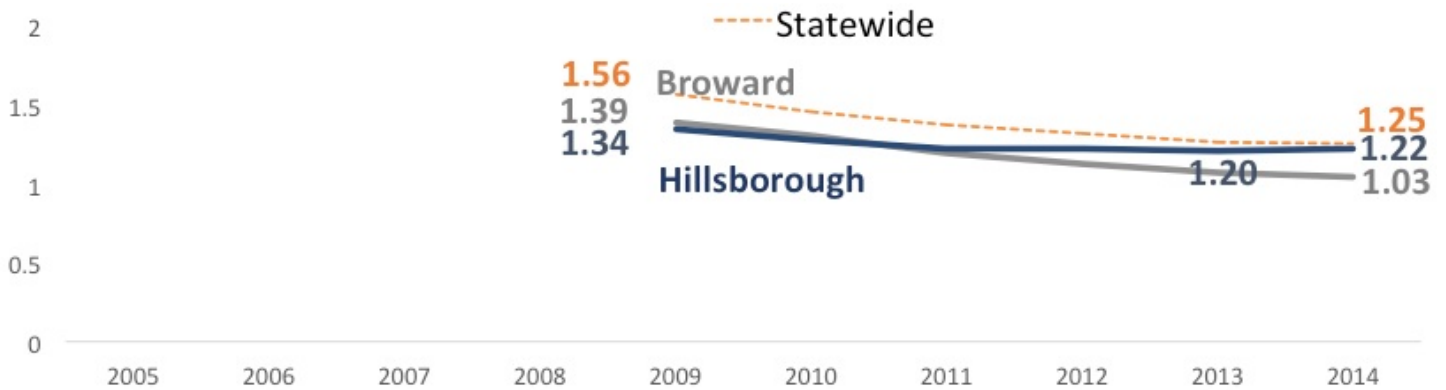
Safety Measures

Fatalities (Five Year Rolling Average)



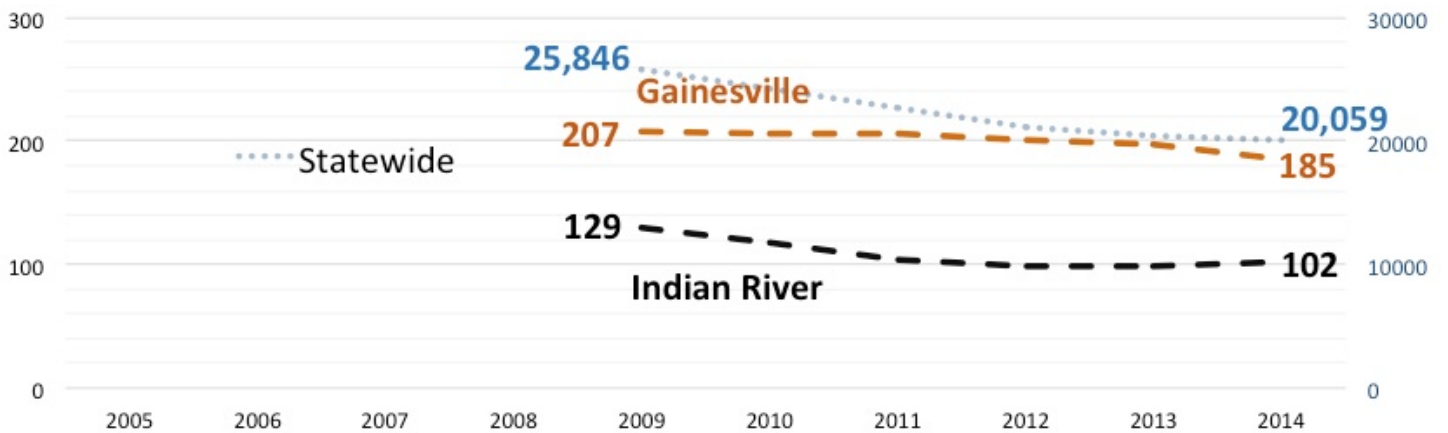
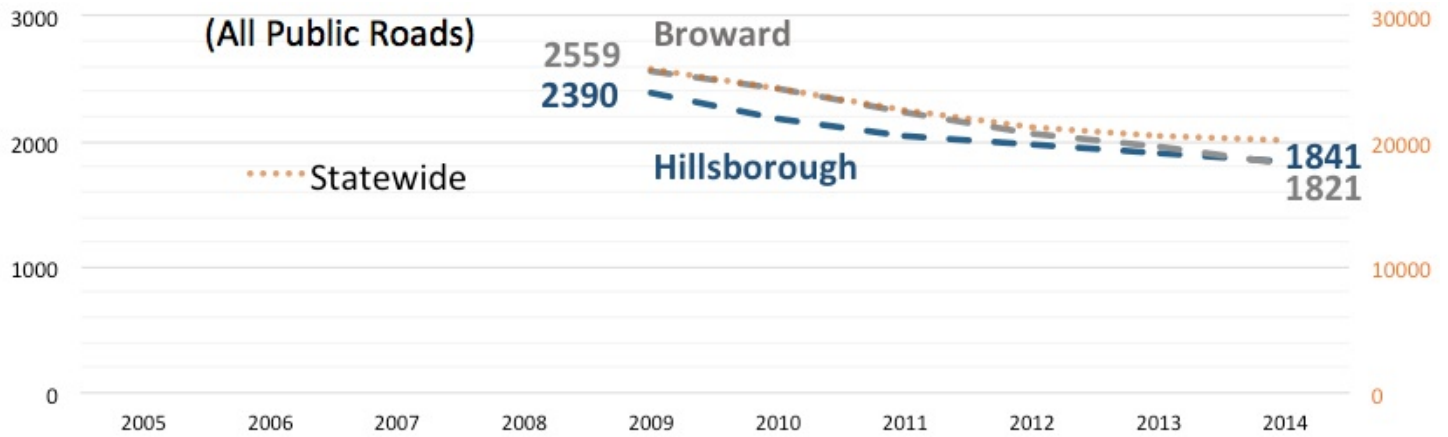
Safety Measures

Fatalities/100M VMT (Five Year Rolling Average)



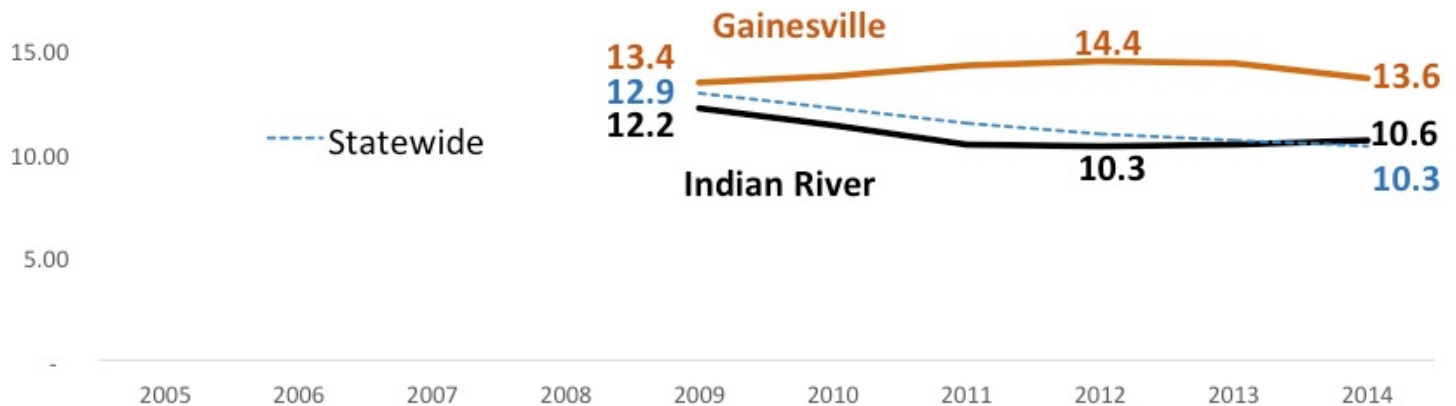
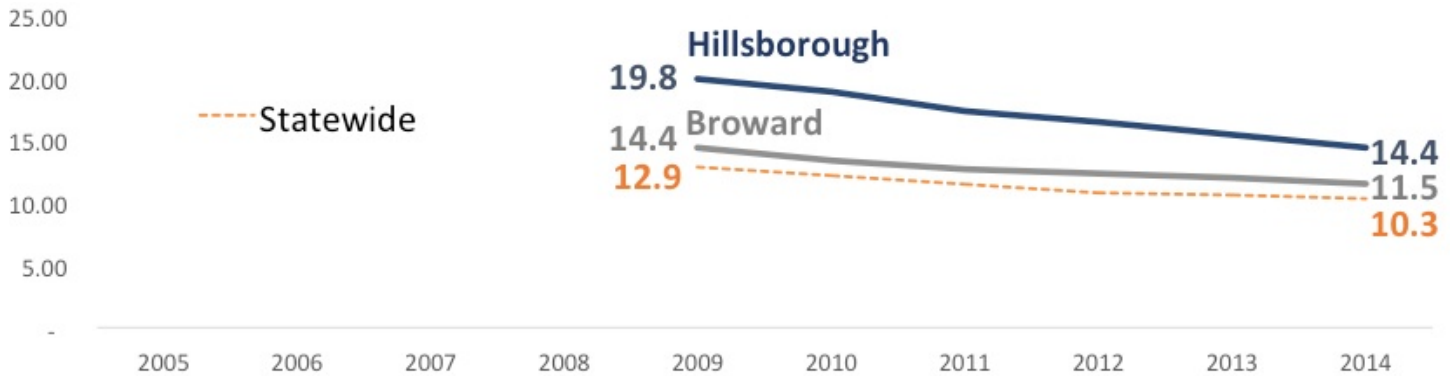
Safety Measures

Serious Injuries (Five Year Rolling Average)



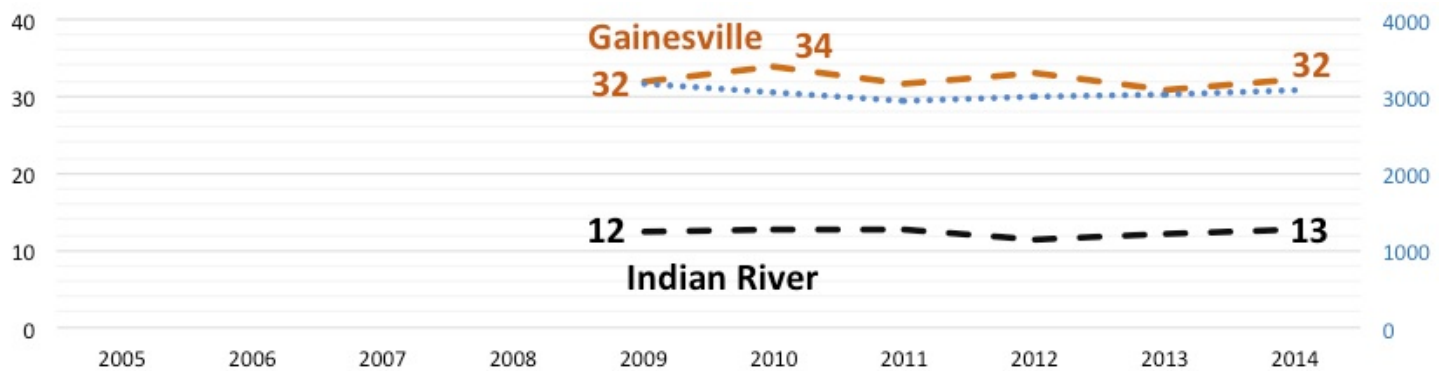
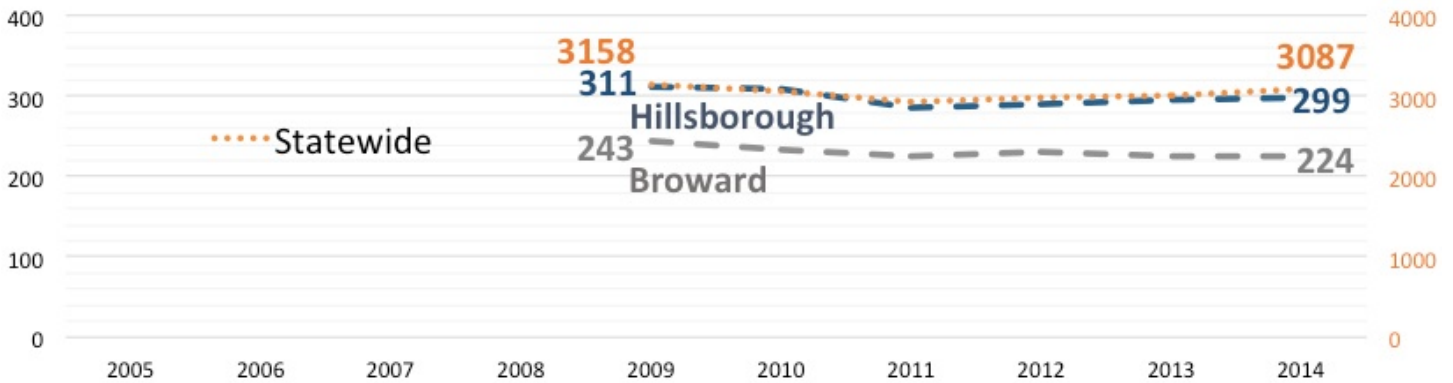
Safety Measures

Serious Injuries/100M VMT (Five Year Rolling Average)



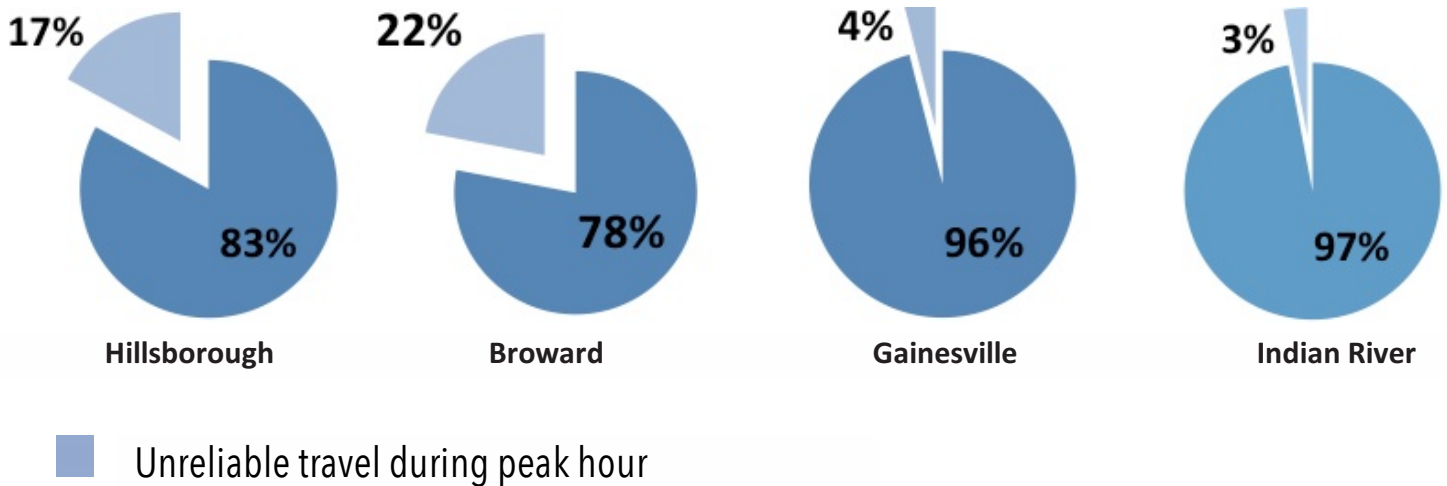
Safety Measures

Number of Non-motorized Fatalities & Serious Injuries
(Five Year Rolling Average)



System Performance Measure

Peak Hour Travel Reliability (Freeways only)



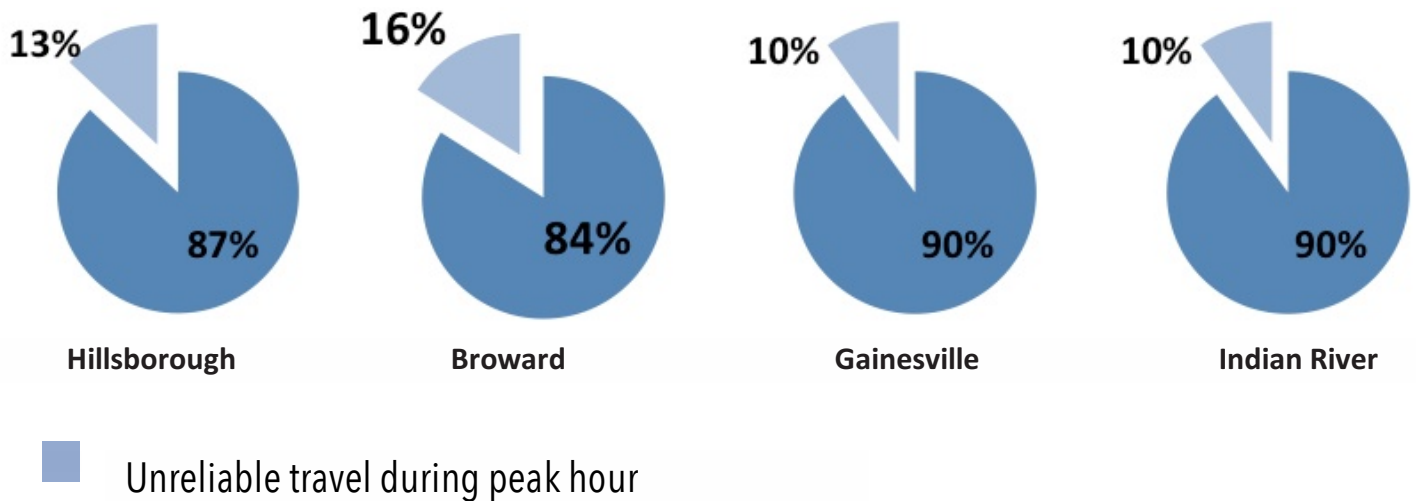
Notes:

For Florida's seven largest counties 'travel time reliability' is defined by FDOT as the percentage of freeway trips traveling at least 45 mph. For all other counties, travel time reliability is defined as the percentage of freeway trips travelling at greater than or equal to 5 mph below the posted speed limit.

Final national system performance measure: % of person miles traveled (IS & non-IS NHS – 2 measures) that are reliable, where 'reliable' is defined as a travel time ratio of 1.5 or less for the 80th percentile/50th percentile travel times on each segment of the NHS.

Freight Performance Measure

Peak Hour Truck Travel Reliability (Freeways only)



Notes:

For Florida's seven largest counties 'travel time reliability' is defined by FDOT as the percentage of freeway trips traveling at least 45 mph. For all other counties, travel time reliability is defined as the percentage of freeway trips travelling at greater than or equal to 5 mph below the posted speed limit.

Final national system performance measure: % of IS mileage providing for reliable truck travel times, where 'reliable' is defined as a travel time ratio of 1.5 or less for the 95th percentile/50th percentile travel times on each segment of the Interstate.

Conclusions

“This study demonstrated that the State of Florida Department of Transportation and the Florida MPOs have a good story to tell the public and elected officials through the performance measures. Each MPO was able to clearly explain why the data showed the system performance in the way it did and the use of performance measure data will show the public how their money is benefiting them.”

Carl Mikyska

Executive Director,
Florida Metropolitan Planning
Organization Advisory Council

- **Sharing MPO-level Data is Feasible** – The pilot study proved that the level of effort required to gather and analyze performance data at the MPO level in Florida is feasible with a modest additional level of effort by FDOT staff. Efforts to advance GIS capabilities at FDOT will further streamline the process of gathering, analyzing and sharing performance data in the future – particularly aligning FDOT state-level data with MPO boundaries that do not follow county boundaries. Areas of uncertainty remain however, since the pilot did not include pavement or system performance/freight measures as proposed by FHWA.
- **Coordination on Performance Measures is Valuable & Should be Expanded** – FDOT and the pilot MPOs agree that these early efforts to examine statewide and MPO-level performance data are helpful and should be continued and expanded to include all MPOs in the State as part of national measures implementation.
- **Setting Safety Performance Targets is Challenging** - All MPOs in the pilot agreed that the national safety measures are likely to be the State’s greatest challenge in complying with the new national measures. Florida’s fast growing population and heavy volume of out-of-state visitors contribute to unique safety challenges experienced by few if any other states. This challenge is reflected in safety performance results that show flat or declining progress on reducing serious injuries and fatalities. FDOT and the State’s MPOs must work together on how to set meaningful safety targets that support improvements.
- **Time to Expand Pilot** - The four pilot MPOs confirmed in a panel discussion held at the October 2016 Florida MPO Summit that the exercise of reviewing national measures data was helpful and should be expanded to include all MPOs. Florida has the most MPOs of any state, so time is of the essence in expanding this pilot effort to meet deadlines imposed by the national measures Rule-making process, which require state targets to be set in a year from February 2017, and MPO targets 180 days later.

Next Steps

- Expand data sharing for all measures to include all 27 Florida MPOs
- Develop and share final rule pavement measure results based on final rule definitions
- Develop and share final rule system performance and freight measure results based on final rule definitions
- Work with MPOs to explore target setting, starting with safety measures (which are required on the earliest timeline and have more challenges for Florida than the other performance areas)